

CLAIMS

1. A method of diagnosing an equipment (2) to be inspected, in which a communications module (1) associated with the equipment (2) to be inspected reads
5 operating data relating to the equipment (2) to be inspected and forwards the data to a remote server (3, 5a, 5b, ..., 5n), and the remote server (3, 5a, 5b, ..., 5n) performs a diagnosis on the basis of the operating data it receives, the method being characterized by the
10 fact that:
- an intermediate server (3) determines which from among a plurality of specialized assistance servers (5a, 5b, ..., 5n) is the server that is appropriate for the equipment (2), and puts the communications module (1)
15 into communication with the specialized assistance server (5a, 5b, ..., 5n) that is adapted to the equipment (2); and
 - the communications module (1) transmits the operating data concerning the equipment (2) to the
20 specialized assistance server which performs the diagnosis.
2. A method according to claim 1, in which an adjustment step is provided during which the remote server (3, 5a,
25 5b, ..., 5n) transmits adjustment orders for repairing the equipment (2) to the equipment (2) via the communications module (1).
3. A method according to claim or claim 2, in which a
30 local diagnosis step is provided that is performed by the communications module (1), and that is followed, when the equipment (2) can be repaired by the communications module (1), by an adjustment step during which the communications module (1) transmits adjustment orders to
35 the equipment (2).

4. A method according to claim 2 or claim 3, in which, when the equipment (2) cannot be repaired by the communications module (1), an information notification step is provided during which the communications module (1) provides a user either with information to enable the user to repair the malfunction, or information to the effect that repair of the malfunction requires the intervention of a repair service.
5. A method according to claim 4, in which the information to enable the user to repair the malfunction or the information to the effect that the repair of the malfunction requires the intervention of a repair service is transmitted to the communications module (1) by the remote server (3, 5a, 5b, ..., 5n).
6. A method according to claim 5, in which, when repair of the malfunction requires the intervention of a repair service, the remote server (3, 5a, 5b, ..., 5n) sends a request to make contact to a repair service, the request containing an address for the communications module (1) on a communications network (6), and the repair service makes contact with the communications module (1) via said network (6) in order to agree a rendezvous with the user.
7. A method according to claim 5 or claim 6, in which there are provided three levels of diagnosis and adjustment, or if adjustment is not possible, of information notification, the levels being designed to be implemented one after another respectively by the communications module (1), by the intermediate server (3), and by the specialized assistance server (5a, ..., 5n).
8. A method according to claim 7, in which, after performing a diagnosis at level N, another diagnosis is performed at the next higher level N+1 in the event of

neither of the two steps of adjustment or information notification being performed at level N.

9. A method according to any one of claims 1 to 8, in
5 which a prior registration step is provided during which:

- each user declares to the intermediate server (3) at least one piece of equipment (2) to be inspected and transmits the characteristics of the equipment (2) to the server; and

10 • the intermediate server (3) associates an equipment profile with the declared equipment (2), which profile contains said characteristics, and the intermediate server associates said equipment profile with a personal profile of the user.

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10. A method according to claim 9, in which the intermediate server (3) records in the profile of the equipment (2) at least one item of information from the group containing: an equipment identifier; a method of
20 billing assistance interventions; an assistance level; and identification data for a repair service.

11. A method according to claim 9 or claim 10, in which each user sends to the intermediate server (3)
25 characteristics relating to the communications module (1) associated with the equipment (2) to be inspected, and the intermediate server (3) associates a communications module (1) profile containing said characteristics with the communications module.

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12. A method according to any one of claims 1 to 11, in which the intermediate server (3) transmits to the communications module (1) diagnosis software means and adjustment software means suitable for the equipment (2)
35 to be inspected.

13. A method according to claim 12, in which the intermediate server (3) retrieves the diagnosis software means and the adjustment software means from servers of equipment manufacturers and records them in a database
5 (4C).

14. A method according to any one of claims 1 to 13, in which, on detecting an emergency event relating to the equipment (2) to be inspected, the communications module
10 (1) makes a priority connection to a "black box" server (8) and transmits data relating to the equipment (2) to be inspected thereto.

15. A method according to any one of claims 1 to 14, in which the communications module reads a distinctive characteristic of at least one element of the equipment and transmits the characteristics to the remote server.

16. A diagnosis system for diagnosing an equipment to be inspected, for implementing the method of claim 1, the
20 system comprising a diagnosis server (3, 5a, 5b, ..., 5n) and a communications module (1) associated with the equipment (2) to be inspected, which server and module are connected to each other via a communications network
25 (6, 7), the communications module (1) being arranged to transmit operating data concerning the equipment (2) to the server (3, 5a, 5b, ..., 5n), and the server (3, 5a, 5b, ..., 5n) being arranged to make a diagnosis on the basis of the operating data concerning the equipment (2),
30 the system being characterized in that there are provided a plurality of specialized assistance servers (5a, 5b, ..., 5n) suitable for making diagnoses and an intermediate server (3) arranged to determine which from among the plurality of specialized assistance servers
35 (5a, 5b, ..., 5n) is the server appropriate for the equipment (2), and suitable for putting the communications module (1) into communication with the

appropriate specialized assistance server in order to cause a diagnosis to be made relating to the equipment (2).

- 5 17. A system according to claim 16, in which a user database (4A) is provided associated with the intermediate server (3) and comprising, for each user, a personal profile associated with at least one profile of an equipment (2) to be inspected.
- 10 18. A system according to claim 17, in which the personal profile of each user is associated with a profile of a communications module (1).
- 15 19. A system according to claim 16 or claim 17, in which, when the equipment to be inspected is an emergency vehicle, the intermediate server (3) is arranged to direct the emergency vehicle to an emergency center associated with the specialized assistance server
- 20 appropriate for the equipment (2).
20. A system according to claim 19, in which, for an emergency vehicle including at least one medical appliance for monitoring a patient and connected to the
- 25 communications module (1), the communications module (1) is arranged to collect operating data supplied by the medical monitoring appliance and corresponding to vital data concerning the patient, and is arranged to transmit said data to said specialized server (5a, 5b, ..., 5n),
- 30 and said specialized server (5a, 5b, ..., 5n) is arranged to monitor the state of the patient remotely.
21. An intermediate server for implementing the method of claim 2, the server comprising means (37) for determining
- 35 which from among a plurality of specialized assistance servers (5a, 5b, ..., 5n) is the server appropriate for an equipment (2) to be inspected, and also comprising

means (38) for putting said communications module (1) into communication with said appropriate specialized assistance server (5a, 5b, ..., 5n).

5 22. A server according to claim 21, in which receiver means (33) are provided that are arranged to receive operating data concerning the equipment (2) to be inspected, and in which means (36) are provided to make a diagnosis on the basis of the operating data concerning
10 the equipment (2).

23. A server according to claim 22, in which adjustment means (44) are provided that are arranged to issue adjustment orders to the equipment (2) to be inspected.
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24. A server according to claim 22 or claim 23, in which sender means (34) are provided that are arranged to send information to the communications module (1) suitable for enabling a user to repair the equipment to be inspected
20 or information to the effect that repair of the equipment requires the intervention of a repair service.

25. A server according to any one of claims 21 to 24, in which there are provided sender means (45) arranged to
25 send diagnosis software means for the equipment (2) and adjustment software means for the equipment (2) to a communications module (1) associated with the equipment (2) to be inspected.

30 26. A server according to any one of claims 21 to 25, in which server/user interface means (32) are provided enabling a user to declare at least one piece of equipment (2) to be inspected and to provide characteristics concerning said equipment (2), and in
35 which means (40) are provided to associate a profile containing said characteristics with the declared

equipment (2) and for associating said equipment profile with a personal profile associated with the user.

27. A server according to claim 26, in which the
5 server/user interface means (32) are arranged to enable the user to specify, for a given piece of equipment (2), at least one item of information from the group comprising: a billing method for an adjustment or information-providing operation; a level of assistance;
10 and means for identifying a repair service.

28. A communications module for implementing the method of claim 1, the module comprising collector means (11) arranged to read operating data relating to an equipment
15 (2) to be inspected and means (17) for sending the operating data to a remote server (3, 5a, 5b, ..., 5n), the module being characterized in that it is provided with means (13) for detecting an emergency event relating to the equipment (2) to be inspected and then, on
20 detecting such an emergency event, for making a priority connection with a "black box" server (8) and transmitting thereto a stream of data conveying data relating to the equipment (2) to be inspected.

25 29. A communications module according to claim 27, in which diagnosis means (12) are provided to make a diagnosis with the help of the operating data concerning the equipment (2) to be inspected.

30 30. A communications module according to claim 28 or claim 29, in which adjustment means (15) are provided that are arranged to issue adjustment orders to the equipment (2) to be inspected.

35 31. A communications module according to any one of claims 28 to 30, in which means (19) are provided to

acquire diagnosis software means and adjustment software means.

32. A "black box" server for implementing the method of
5 claim 15, the black box server comprising means (81) for
receiving a data stream conveying data relating to an
equipment (2) to be inspected, and means (83) for storing
said data in association with information relating to its
time of reception.

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